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ABSTRACT

This paper suggests that by emphasizing word identification skills and oral reading and by using limited reading materials, teachers have neglected reading for meaning. Following a review of current instructional practices, the paper explains how understanding writing depends on the world experience, language knowledge, and processing strategies that readers bring to the text. A final section summarizes implications for teaching. (Author)

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READING COMPREHENSION : THE ROLE OF EXPERIENCE, LANGUAGE KNOWLEDGE AND PROCESSING STRATEGIES

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SYNOPSIS

The first part of the paper suggests that, in our emphasis on word identification skills and oral reading, and through our use of limited reading materials, we have neglected reading for meaning. After looking at current instructional practices, the paper discusses how understanding writing depends on the world experience, language knowledge and processing strategies which readers bring to the text. Implications for teaching are summarized in the final section.

1. LACK OF MEANING EMPHASIS IN EARLY GRADES

In trying to understand why children have difficulty in comprehending written language, it is, perhaps, useful to consider the possibility that some aspects of our teaching may have actually contributed to the difficulties that children face, by giving them the idea that reading is not concerned with meaning

(1) EMPHASIS ON WORD IDENTIFICATION

Firstly we might consider the emphasis in the early years of schooling, on word identification skills. Good reasons for such an emphasis come readily to mind. Word identification is obviously basic to reading. If we can't recognize many of the words in a text, we can't read. Therefore, teaching children to identify words - by flash cards, phonics, etc. seems a good way to begin. Moreover, these word identification skills can be clearly delineated and organized into a hierarchy of sequential, easily-teachable steps which can span the first two or three years of schooling.

While not wishing to condemn useful and effective practices, I want to draw your attention to some possible consequences of an over-emphasis on reading as word identification.

The situation is most bluntly described by Patricia Cunningham (1975) who claims:

> "Since the late fifties, ignited by WHY JOHNNY CAN'T READ (Flesch 1955) and later fueled by LEARNING TO READ: THE GREAT DEBATE (Chall, 1967) the flame or phonics has burned brightly. Regardless of the label (phonics, graphophonics, decoding, sound-symbol correspondences), the word identification component of the reading process has been emphasized. This emphasis on word identification has had a predictable outcome. Nationwide, standardized test results have shown an increase in word identification scores, a decrease in comprehension scores (Karlsen, 1973). Just as, a decade ago, teachers were seeking more effective ways to teach word identification, they are now seeking instructional strategies to help the vast numbers of their students who can "read the words but don't know what it means"."

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Schiller (1973) sees our over-emphasis on word identification skills as having produced many children who are trapped in a stage of "list reading" in which they see writing as just a string of words. They have learned to decode and can read the sound and meaning of individual words but not the meaning of written discourse. They seem unaware that the words fit together in certain ways and build up into structures which themselves are part of higher structures. So it is, that, despite their experience of spoken language, they are unable to read the meaning of sentences and are unable to build up a meaning for larger units of discourse.

What I should like to suggest is that by concentrating so much on word identification we may have inadvertedly given children the idea that making sense of the passage and relating it to what one knows, is only of secondary importance.

(2) EMPHASIS ON ORAL READING

A second aspect of our teaching which may have drawn attention away from reading as meaning-making is our traditional emphasis on orál reading.

There are, of course, good reasons for oral reading. Beginning readers may need to vocalize. For, with some sort of sound encoding, they may be better able to hold in short term memory the words that they are slowly identifying. Even proficient readers use this kind of storing of words when they are confronted with difficult texts.

But, at some stage, the advantage of storing the surface form of the language - the actual words used by the writer - can become a limitation. Reading aloud requires a double encoding process. Words and phrases are immediately recognized and related to some sort of meaning representation and then they have to be said aloud. That is, while the reader is trying to get to the message that the writer intended, he has to concentrate on reproducing the surface signal - the words on the page. Such reproduction of the surface form of the text probably interferes with working out what the writer means, as is suggested by the fact that most adults and many children find reading aloud an inconvenient chore.

Another good reason for oral reading is that it gives the teacher an opportunity to monitor reading progress and diagnose difficulties. However, the great bulk of the oral reading that children do is reading to their peers or parent volunteers in school or to parents at home. The task of the parents seems to be to give the children practice in reading and to ensure that they don't get away with making mistakes. The emphasis is on word identification and almost no attention is given to whether the children are making any sense of what they are reading.

Last year, when I visited one of Adelaide's best junior primary schools, the teachers proudly broughtto me a Greek girl who had been in Australia for only a few months. She understood almost no spoken English but she gave a perfect

performance of reading aloud a page from one of the Endeavour readers. However, from my questions and those of a teacher who helped out, it became obvious that she had no idea of what she was reading about.

It is surprising to me how far this emphasis on oral reading with no attention to meaning extends. Each night I hear my fourth grade daughter read aloud to me because she has to take to school a note saying that she has read X pages to her parents. She would be quite happy to read silently and then tell me about the story but she won't, because that would be cheating. The teacher says her parents have to hear her read.

Recently, our Reading Education students interviewed thirty or more children to find out what the children thought about the nature and purpose of reading. Predictably, the five, six and seven year olds saw reading as word identification and word analysis. For example, in answer to the question, "What is reading?" one child said: "Well, you read books and you learn the words out of books." Another spoke of "talking and turning the pages, sounding words you don't know."

Our interviews clearly confirmed the claims of Jessie Reid (1966), John Downing (1970) and Duane Tovey (1976) who found young children confused as to what reading was all about. What was more interesting was the number of third, fourth and fifth graders in our study who saw school reading as a reading-aloud performance quite apart from reading books for information or pleasure. What they did at home with library books was somehow not "real reading."

One fifth grade boy insisted that reading aloud was better "because it made you a better reader." What he meant was that it made you a better reader in the teacher's terms, that is a better oral reader. He later admitted that if he wanted to find out something, he would read silently because he could understand better that way. Perhaps it is worth quoting what Don Holdaway (1972) has to say in his book on "Independence in Reading."

> "The vital thing in instructional reading is that children should read for PERSONAL UNDERSTANDING AND SATISFACTION - otherwise they may not be truly reading - they may be simply saying words for someone else to monitor and correct...
>
> The important distinction, then, is not between silent and oral reading, but between reading for personal understanding and satisfaction, on the one hand, and reading for the understanding and satisfaction of an audience on the other."

(3) MATERIALS WHICH DON'T ENCOURAGE UNDERSTANDING

Having children read with personal understanding and satisfaction can be almost impossible however, with the limited range of reading materials available in some of our classrooms.

Let me finish this section by telling you the story of Daniel, the son of one of my friends. Daniel has attended three schools in the last two years and last

week his father discovered that, for the third time in his career, Daniel was "up to" Book Six in the Endeavour Reading Scheme. At his previous school he had got up to book 14. Although acquainted with this fact, his current teacher insists that he stay with Book Six until he can read it perfectly - for she has all the class reading Books 5-8 and her reading programme is so arranged that Daniel will be able to read aloud to her from time to time and thus get through the book in four to five weeks. Fortunately Daniel isn't really worried for he has told his father that he has been able to read books 16 and 17 in the library at lunch time.

As Schiller suggests:

> "We have treated the child as an object that needs to be trained in a skill; we have forgotten that he is a rapidly developing human being with an insatiable thirst for experience".

I think he is right in suggesting that we often forget that READ is also a transitive verb. It demands an object, for children don't just read - they read something. But often, all that is available is prose without sense or cohesion, and prose limited to sentence structures which are unlike any found in speech or real books and limited to a vocabulary of words made up of only the simplest spelling patterns. The nonsense which results hardly encourages reading for any purpose other than getting teacher and parent approval.

It is not surprising then that some of the children in our schools see reading as a performance ritual unrelated to real world reading purposes such as reading for pleasure and information. Their failure to comprehend seems to have been almost encouraged by a system which emphasises word recognition skills and oral reading, and fails to provide reading materials which will develop a desire to read for personal understanding and satisfaction.

I should like to suggest, therefore, that before we begin to look for instructional strategies which will improve comprehension, we ought to look closely at whether what we do encourages children to see reading as a meaningful, pleasurable and useful activity.

2. CURRENT STRATEGIES FOR TEACHING COMPREHENSION

When we turn to a consideration of current instructional strategies that do focus on reading comprehension we find that almost everything done in the area is rather arbitrary, simply because until recently we've had no clear idea of what is involved in understanding written language. Factor analysis studies (Haase, 1974) tell us no more than that comprehension depends on a knowledge of words and some other general factor which has to do with our ability to put words together to make meaning.

Yet, influenced by the categories chosen by comprehension test designers, we have made the unwarranted assumption that there are clear-cut categories of comprehension such as:

literal
inferential
critical
creative

It is an appealing taxonomy because questions can be framed to test whether readers can get the literal meaning, make inferences, read critically and respond creatively. It is dangerous, however, if we assume that these categories are independent and that they represent stages in development. I would argue, for example, that literal questions can be answered without understanding. Even with nonsense sentences such as: THE SLEED NEFTLY CLOOPED A TRONT, we can answer "literal" questions such as "WHO NEFTLY CLOOPED A TRONT", "WHAT DID THE SLEED DO TO THE TRONT" etc. You don't need to understand. You simply need to know how to juggle syntactic structures. I would also argue that our notions about inference are far from clear and that even the simplest language understanding requires inference. As for "critical" and "creative" - the terms seem to have little to do with understanding but refer to mental activities that result from understanding or refer to reading with particular purposes.

We have also been encouraged by test designers to think that there are identifiable, teachable comprehension skills such as:

selecting main ideas
identifying supporting details
following directions etc.

Of course we can test children's ability to do these things but there is nothing to suggest that these are the fundamental skills of reading or that they are activities involved in reading for non-test purposes. Furthermore, there is no evidence that exercises and activities designed to improve these skills ever result in increased understanding.

Let us then turn from testing to an exploration of what people do when they read for their own understanding and satisfaction.

3. ASPECTS OF READING COMPREHENSION

(1) USING WORLD KNOWLEDGE

In the case of real-world reading (as opposed to the reading of tests and the reading of learning-to-read books) the writer assumes that his readers will bring to the reading task an enormous amount of world knowledge. The familiar words and phrases which he uses act as pointers which allow his readers to access the relevant information in their own huge information stores. For instance the words "Richard Nixon" can set in motion an almost infinite network of associations. But the writer does more than trigger off associations. He also limits the meaning that his readers build up by clearly specifying the particular relations between concepts which he wants his readers to construct. In doing this he limits the kind of scenario or script that his readers can construct.

Still my first point is, that in any real reading, what is of paramount

importance is the knowledge that readers bring to the text. When they are able to bring the knowledge that the writer assumes, they are able to "fill in" the information that the writer implies but doesn't make linguistically explicit.

For example, think what we need to know about the world to make sense of the following:

> MARY SHOOK HER PIGGY BANK. THERE WAS NO SOUND
> SHE BURST INTO TEARS

Think what we fill in when we read:

> IT WAS JOHN WHO HIT MARY. HE STILL HAD THE
> STICK IN HIS HAND.

We have to read "STICK" as an instruction to limit all the other meanings such as "slap", "punch" etc. that we could have constructed from the word "HIT".

Those of you who have worked with aboriginal children and others from different cultures will appreciate that even the simplest language requires the reader to supply a great deal from his own information store if he is to build the meaning intended by the writer.

To further illustrate how the knowledge that we bring determines our ability to understand, let me quote two sentences which appeared above the headline "THE WAVES OF WATERGATE" in a daily paper last week.

> "On Thursday Richard Nixon will talk publicly about the Watergate affair. But newly-released White House tapes show that he was deeper in it than has ever been admitted."

Even in this introduction to the main piece the editor makes considerable assumptions about his readers' knowledge. He expects them to know:

> who Richard Nixon is
> what happened in the Watergate affair
> what kind of tapes are being referred to
> what other tapes have been released
> what he was already deep in.

In effect, this writer is telling us to access information that we already have. He assumes that, if necessary, we can access an incredibly complex scenario or script which involves a cast of related characters and a complicated series of events set in a variety of locations.

To this complex network of information already in our heads, the writer virtually instructs us to add the new information that:

a. new tapes have been released (we can probably guess who released them)

b. they show that Nixon was deeper in it than has ever been admitted. (We can guess from previous knowledge the way in which the tapes would have shown this).

Compared with the complexity of the information assumed by the writer this new information is almost trivial.

My first major point, then, is that if you know what it is all about (and the writer usually assumes you do) reading becomes easy. Even text books proceed carefully by having the reader add tiny bits of information to an already rich information store.

So it is that in the classroom we need to discover whether our pupils bring sufficient world knowledge to the reading of particular texts. If they don't meet the writers expectations in this regard, they are overwhelmed with too much new knowledge. Reading then becomes an arduous task of following subtle clues to find out what needs to be related to what, what word meanings need to be limited, etc. Faced with such demands, most of us either give up or grab at pieces of information in the text and tie them on to whatever of our own information seems relevant. The result is a meaning representation - some sort of rough scenario or script - which departs significantly from what the writer intended.

(2) USING LINGUISTIC KNOWLEDGE

"Getting to what the writer intended" brings us to the role of linguistic knowledge in understanding. We need to realise, first of all, that getting to what the writer intended can be accomplished in a variety of ways. The strategy of grabbing at pieces of information (usually the content words that are recognized, and relating them to one's knowledge store, without much attention to the more subtle linguistic cues provided by the writer, is probably widely used by beginning readers. It follows naturally from understanding spoken language, in which communication is helped enormously by the information available in the situational context. For instance, the context not only provides the things being referred to, but also evidence of the way they are related. As well as this, the speaker's gesture and facial expression and his stress, pause and intonation all make it possible to understand, without paying much attention to subtle syntactic markers such as function words and word endings. In such information-rich spoken language situations, word order is usually sufficient to determine how the content words are to be related.

When beginning readers use the same minimal attention to syntactic information in trying to understand written language, we may not be aware of it. For beginning reading materials usually have highly predictable grammatical patterns and even with merely a rough sampling of the content words the young reader is able to get the gist of the passage.

There comes a time, however, - usually in the middle grades - when we expect the reader to move from carefully controlled reading material to real books - books which will be read for pleasure and information rather than for learning to read.

To understand the prose of this new material, the reader needs more than just a good knowledge of the relevant world information and the rough meaning-making strategies he has brought from speech understanding and beginning reading. To put words together and work out what the sentences mean and to put the sentences together and work out the structure of the whole message, he requires a sophisticated knowledge of the devices which writers use to signal grammatical relations (i.e. who is doing what to whom etc.) and of the devices they use to tie

the discourse into a coherent whole. The reader has to be able to read the subtle signs that the writer gives to guide him in his meaning construction.

Consider, as an exmple, children's understanding of reversible and non-reversible passives. Turner and Rommenveit (1967) show that four year old children can easily work out the grammatical relations in

THE ONION WAS EATEN BY THE BOY

They do not need to follow the passive markers - the auxiliary WAS, the -EN inflection and the function word BY. They simply put the content words together in the only way that makes sense. However, the same study shows that it is not until age 7 or 8 that children are able to exceed 60% accuracy on reversible passives such as

THE GIRL WAS CHASED BY THE BOY

At this age it would seem that they are still tempted to use the rough strategy (see Bever 1967) of taking the first content word as the actor, the second as the action and the third as the receiver of the action. They are still in the process of learning to attach importance to syntactic markers.

Consider also the care that the child has to take to work out the sequential relations in the following where the word order seems to invert the logical order of events.

a. MOVE A YELLOW BEAD, BUT FIRST MOVE A RED ONE
b. MOVE A YELLOW BEAD, AFTER YOU MOVE A RED ONE
c. BEFORE YOU MOVE A YELLOW BEAD, MOVE A RED ONE

In one structure (MOVE A YELLOW BEAD AFTER YOU MOVE A RED ONE) Hatch (1969) found that second graders scored only 58% correct responses.

There is also evidence (Robertson 1968, Bormuth, 1969) that in the early years of schooling, children find difficulty in interpreting some kinds of relative clauses e.g.,

JOHN, WHO IS IN SECOND GRADE, IS LEARNING TO READ.

Fagan (1971) also found that complement structures containing "ING" constructions (e.g. "FINDING HIM WAS EASY") were difficult for children to understand.

Bormuth et al (1969) found that school age children frequently have difficulty identifying the antecedents or referents of pronouns and other linking devices. They found, for instance, that fourth graders had only 7% success in identifying who "NO ONE" referred to in:

"THE GANG WENT SHOPPING. NO ONE BOUGHT...."

Robertson (1968) too, showed that logical connectives can cause difficulty.

e.g., JOHN WILL GO AND MARY WILL GO
JOHN WILL GO IF MARY GOES
JOHN WILL GO BECAUSE MARY GOES
JOHN WILL GO UNLESS MARY GOES

Many of these difficulties may go undetected firstly because we don't have really effective ways of monitoring children's comprehension, and secondly because often the children's own knowledge and the extra information from the context,

enable them to sort out the network of relationships intended by the writer. Nevertheless, in order to progress to more complex prose, in which writers assume considerable linguistic competence, the young reader has to learn the increasingly subtle ways in which the network of concepts and relationships is signalled.

Consider for example the following passage from the S.R.A. Reading for Understanding Kit:

> "The increase in fatal highway accidents has pointed to the danger from drunken drivers and raised the question of the desirability of legislation to control -
>
> A - the sale of alcoholic beverages. C-youthful drivers
> B - the activities of policemen. D- speed at intersections

Even if children get the right answer (you can do it by linking "drunken drivers" and "alcoholic") it is not easy to know how they have dealt with the compression of information into the word FATAL and the difficulties posed by compressing whole propositions into abstract nouns such as INCREASE, QUESTION, DESIRABILITY and LEGISLATION. Reading with anything like full understanding requires that the children go from this complex set of surface structures to a network of concepts and relationships that is more simply expressed by the following:

> "Many people have been killed in accidents. This has shown that drunken drivers are dangerous and made some people ask if we want laws to control liquor sales".

Even this does not fully express the underlying network of concepts and relationships. The writer can't provide everything; he simply provides cues to the kind of meaning he wants the reader to construct. The cues he gives will, of course, be determined by the assumptions that he makes about the world knowledge and linguistic competence of his readers.

(3) USING STRATEGIES APPROPRIATE TO PURPOSE

A final related aspect of understanding the meaning of writing is the way in which readers' processing strategies are determined not only by the knowledge and linguistic competence they bring to the task but also by their purpose for reading.

As I have already suggested, early reading instruction often gives children the impression that reading is merely a matter of saying aloud the words that they recognize. It doesn't encourage them to begin with the expectation that the writer will provide them with cues to construct a meaning from the network of information that they already possess.

At some stage they need to realize that much of the information in prose is redundant. Much of it consists of what they already know. The writer has included this "old" information as a pointer to the part of their information store to which they can attach new information. As Haviland and Clark (1974) have pointed out, there is a kind of GIVEN-NEW contact between writer and reader.

The writer includes GIVEN information (that which he expects the reader already knows) in subordinate constructions so that the NEW information which he wishes to impart can be highlighted. In speech we can highlight information by the use of stress, pause and intonation but in writing, though we occasionally use underlining, italics, heavy type and exclamation marks, we are mostly dependent on syntactic devices for signalling what is new and significant.

Consider the following:

a. THE GERMAN HELMET THAT GRANDPA BROUGHT BACK FROM WORLD WAR I MAKES A VERY USEFUL COAL BUCKET.

The information contained in the relative clause, i.e. that grandpa got the helmet in World War I, is probably old information which deserves less attention than the information in the main clause.

Consider, too,

b. ALTHOUGH THE RIVER HAS MANY BEAUTIFUL SPOTS, IT IS BEST KNOWN FOR THE CAMBRIDGE-OXFORD BOAT RACE WHICH TAKES PLACE HERE EVERY YEAR.

In this, the writer has signalled what is the new or important information by including it in the trunk of the sentence rather than in the initial adverbial clause or the final adverbial phrase.

Similar pointers exist at the discourse level. The writer is able to signal to the reader what kind of attention needs to be given to a subsequent section. For instance I began an earlier paragraph:

"AS I HAVE ALREADY SUGGESTED...."

I meant it to signal that what followed was something you already knew. It's function was simply a linking device to show you that what came later was linked to what we had already discussed. Expository prose, in particular, is full of such devices, which Davies and Widdowson (1974) describe as performing a "contact function". I refer to all those discourse markers such as IN SHORT, IN BRIEF, WE MAY SAY THEN, IN CONCLUSION, ON THE OTHER HAND, MOREOVER, NEVERTHELESS.

All of these devices provide confident readers, who are bent on extending their knowledge, with the opportunity for selective attention. Since much of real world writing deliberately deals with what we already know, we, as proficient readers, tend to skim for new information and give marginal attention to the "given" information which the writer includes.

How much attention that any reader gives to particular aspects of a text depends, therefore, not only on the knowledge that he brings to the text and his ability to respond to the cues which guide him to the meaning representation that the writer intends, but also on what he is looking for.

Since time will not allow adequate discussion of how purpose determines reading strategies, let me merely suggest that readers guided by their own questions and interests probably approach meaning construction in a way quite different from those who read simply to complete comprehension exercises to please the teacher.

4. IMPLICATIONS FOR TEACHING

I hope that a few general principles will have emerged from all that I have said:

(1) We should encourage beginning readers to see reading as meaning making. To this end, we might need to play down our emphasis on word identification skills and oral reading and provide reading materials which will encourage children to read for satisfaction and understanding.

(2) We should take into account the crucial importance of the information which the reader brings to the text. Wherever possible we should ensure that the reader has enough knowledge to begin to build the meaning representation intended by the writer.

(3) We should also explore ways of making children aware of the linguistic devices which writers use to signal grammatical and discourse relations.

(4) We should encourage children to read differently for a variety of purposes.

These are the issues which my colleagues, students and I see as vital to the improvement of children's ability to understand the meaning of writing. Tomorrow I should like to outline some of the ways in which we think it might be possible to achieve these objectives.

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